

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) An isolated polypeptide molecule comprising residues 26 to 546 of SEQ ID NO:2.

2. (Original) The isolated polypeptide molecule according to claim 1, wherein the polypeptide molecule comprises residues 26 to 627 of SEQ ID NO:2.

3. (Original) The isolated polypeptide molecule according to claim 1, wherein the polypeptide molecule comprises residues 1 to 627 of SEQ ID NO:2.

4. (currently amended) The isolated polypeptide molecule of claim 1, wherein ~~at least nine contiguous amino acid residues of SEQ ID NO:2 are the polypeptide is~~ operably linked via a peptide bond or polypeptide linker to a second polypeptide selected from the group consisting of maltose binding protein, an immunoglobulin constant region, and a polyhistidine tag.

5. (Original) The isolated polypeptide molecule according to claim 1, wherein the polypeptide comprises a fusion protein wherein polypeptide is conjugated with a compound selected from the group consisting of keyhole limpet hemocyanin, muramyl dipeptide, histidine-tag, beta gal, and palmitic acid.

6. (Withdrawn) An isolated polynucleotide molecule encoding the polypeptide molecule according to claim 1.

7. (Withdrawn) An expression vector comprising the following operably linked elements:

- a) a transcription promoter;
- b) a DNA segment encoding the polypeptide according to claim 6; and
- c) a transcription terminator.

8. (Withdrawn) An expression vector of claim 7 wherein the DNA segment further encodes an affinity tag.

9. (Withdrawn) A cultured cell into which has been introduced an expression vector according to claim 7, wherein said cell expresses the polypeptide encoded by the DNA segment.

10. (Withdrawn) A method of producing a polypeptide comprising culturing a cell according to claim 9, whereby said cell expresses the polypeptide encoded by the DNA segment, and recovering the polypeptide.

11. (Previously presented) A polypeptide produced by the method of culturing a cell containing an expression vector, wherein the expression vector comprises the following operably linked elements:

- a) a transcription promoter;
- b) a DNA segment encoding the polypeptide according to claim 1.; and
- c) a transcription terminator.

whereby said cell expresses the polypeptide encoded by the DNA segment, and recovering the polypeptide .

12. (Withdrawn) A method of producing an antibody to a polypeptide comprising the following steps:

inoculating an animal with the polypeptide such that the polypeptide elicits an immune response in the animal to produce the antibody; and

isolating the antibody from the animal,

wherein the polypeptide is chosen from,

- a) a polypeptide comprising residues 26 to 546 of SEQ ID NO:2;.
- b) a polypeptide comprising residues 26 to 627 of SEQ ID NO:2; and
- c) a polypeptide comprising residues 1 to 627 of SEQ ID NO:2

and wherein the antibody produced by the method specifically binds to a polypeptide of SEQ ID NO:2.

13. (Withdrawn) The antibody produced by the method according to claim 12.

14. (Withdrawn) A method of producing an antibody to a polypeptide comprising the following steps:

inoculating an animal with the polypeptide such that the polypeptide elicits an immune response in the animal to produce the antibody; and

isolating the antibody from the animal,

wherein the polypeptide comprises at least fifteen consecutive amino acids of the amino acid sequence as shown in SEQ ID NO:2,

and wherein the antibody produced by the method specifically binds to a polypeptide of SEQ ID NO:2.

15. (Withdrawn) The antibody produced by the method according to claim 14.

16. (Withdrawn) A method for inhibiting sperm-oocyte fusion comprising contacting the sperm and oocytes with the polypeptide according to claim 1, or a fragment thereof, whereby the polypeptide or fragment inhibits the sperm and oocyte fusion.

17. (Withdrawn) A method for inhibiting sperm-oocyte fusion comprising contacting the sperm and oocytes with the antibody according to claim 12, whereby the polypeptide or fragment inhibits the sperm and oocyte fusion.

18. (Withdrawn) A method for inhibiting sperm-oocyte fusion comprising contacting the sperm and oocytes with the antibody according to claim 14, whereby the polypeptide or fragment inhibits the sperm and oocyte fusion.

19. (Withdrawn) A method for inducing infertility in a mammal, comprising administering to the mammal an contraceptively effective dose of the polypeptide according to claim 1, or a fragment thereof, wherein the polypeptide induces an immune response in the mammal, thereby inducing infertility in the mammal.

20. (Withdrawn) A method for inducing infertility in a mammal, comprising administering to the mammal the antibody according to claim 12, wherein the

polypeptide induces an immune response in the mammal, thereby inducing infertility in the mammal.

21. (Withdrawn) A method for inducing infertility in a mammal, comprising administering to the mammal the antibody according to claim 14, wherein the polypeptide induces an immune response in the mammal, thereby inducing infertility in the mammal.

22. (Currently amended) A composition comprising a contraceptive dose of the polypeptide according to claim 1, ~~or a fragment thereof~~, and an acceptable carrier, and/or adjuvant.